LIST OF BARCLAY RELATED STATEMENTS AND REPORTS,

AS OF: 14th July, 1983

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The listed documents are referred to by numbers which are written in green ink on the top right hand side of each front page.

* 1. Sworn Declaration by Wallace S Snyder of the FTC, 15th July, 1983.

Page 2, item 4: Summary of the dispute, RJR complained in June 1981 to the FTC about incorrect "tar" assessment of BARCLAY.

Page 2, item 5: FTC concluded that present testing methods did not assess accurately "tar" etc of BARCLAY, 25th June, 1982.

Page 9, item 20: Actron Project Consultants presented on behalf of B&W scientific arguments to the FTC. Such a presentation had been repeated by B&W / BAT several times in other countries (For details about speakers see document number 2).

Page 9, item 21: The cotinine argument by Dr Gori alleging that BARCLAY nicotine deliveries are in line with those of CARLTON and CAMBRIDGE, two other ultra-LTN (ultra low-tar ultra, low-nicotine) brands of the US market (See also document number 4).

Page 9, and following page, items 22 to 23: PM study showing with the help of the Puff Parameter Analyser (PPA) that the cigarette ventilation (smoke dilution) did not function properly when BARCLAY was smoked by people (as against the smoking machine, see also document number 6).

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- Page 11, item 27: Inspection of the PPA by B&W experts in Boston, 26th August, 1981.
- Page 30, and following pages, items 29 to 33: Independent outside experts were commissioned by the FTC to investigate the BARCLAY controversy (Drs Guerin, Bock, Kozlowski, see also document number 8).
- Page 15, item 36: B&W submitted reports by Drs Gori, Darby, Kamm which claim that the 1 mg "tar" figure ranked BARCLAY correctly against other 1 mg "tar" brands.
- Page 17, item 39: Interim decision by FTC against B&W, 15th December 1981.
- Page 26, item 58: Statement by Dr Battaglia on behalf of Dr Romann, Canton Chemist of Zürich, that he did not consider BARCLAY to be a 1 mg "tar" cigarette, that BARCLAY delivers at least 2.5 mg "tar", and that the B&W cotinine study (Gori/Darby) was not sufficient to permit unambiguous conclusions. 22nd June, 1982.
- * 2. B&W/BAT Brief about Speakers and List of Actron Project Consultants.
- * 3. B&W Presentation to the FTC in Summarised Form, 16th July, 1981.
- * 4. First Submission by Dr Gio B Gori on Nicotine / Cotinine Data in the Blood of BARCLAY Smokers. Comparison with CARLTON and CAMBRIDGE SMOKERS, 22nd October 1981.

Claim that BARCLAY ranked with CAMBRIDGE and CARLTON.

- * 5. Complementary Study by Dr T D Darby on Blood Cotinine. Undated, but submitted towards the end of 1981.
- * 6. Report by the US Testing Company on behalf of Philip Morris, February, 1982.
- Page 2: Purpose of the study to compare dilution (ventilation) measurements on cigarettes in the field (500 real smokers).
- Page 4: Summary of results, i.e. significant drop of dilution for BARCLAY, no such phenomenon with the other tested cigarettes.

* 7. Report on Plasma Cotinine Levels in Smokers of Ultra-Low and Low-Yield Cigarettes, Prepared for RJR by A D Little, 1st March, 1982

Page 1: BARCLAY smokers have plasma nicotine levels comparable to VANTAGE (5 mg FTC "tar"), thus contradicting Gori / Darby.

* 8. Second Gori Study, 12th February 1982.

Same cigarettes as first study but more smokers. Similar results and claims.

* 9. Second Darby Study, Undated.

This study goes with the Gori Study but does not reveal anything new.

* 10. Additional Submission to the FTC by B&W.

Claims that Gori / Darby have proved that BARCLAY, CAMBRIDGE and CARLTON have the same smoke yield.

* 11. Reports by the Three Independent Experts Commissioned by the FTC, Drs Bock, Guerin and Kozlowski, 17th March, 1982.

All three experts reject unanimously the B&W claim of BARCLAY being correctly ranked as a 1 mg "tar" cigarette. Their suggestions range from a 3 mg to a 7 mg "tar" figure.

* 12. Additional Deposition on Behalf of B&W by Paul et al, 8th March, 1982.

Page 5: PPA measurements claimed to be meaningless.

Page 6: Inherent machine bias when using the PPA.

Page 7: PPA invites abuse of the BARCLAY filter.

Addendum by R D Kamm: Tries to disprove RJR claim of BARCLAY channel crushing.

Addendum by T D Darby: Arguments about pharmacodynamics. Page 3: Darby even finds a 0.3 mg nicotine value for BARCLAY as against 0.177 for CARLTON and CAMBRIDGE.

Question: Is this latter finding by Dr Darby of 0.3 mg versus 0.177 (roughly a factor of 2) the reason for Dr Romann to attibute a 0.2 mg nicotine value to BARCLAY although he had only found 0.1 mg (document number 14 and 15) ?

* 13. Sequence of Events in Switzerland.

Dr Romann, assisted by DR Battaglia, being made aware of the BARCLAY controversy and exposed all evidence was up to 22nd June, 1982 of the opion that BARCLAY was not a 1 mg "tar" cigarette (see document number 1, page 26, item 58.

Drs Romann and Battaglia have changed their opinion for motives unknown to us between 22nd June and 23rd July, 1983.

* 14. Private Expertise by DR Romann Addressed to the Home of Mr Fankhauser, Director of BAT, Switzerland, 23rd July, 1982.

Main points:

Romann notes the new and stronger overtipping paper for BARCLAY.

There should not be a great difference between human and machine smoking.

No misleading claims if the declaration of 1 mg tar and 0.2 mg nicotine was accompanied by "determined according to standard methods" (See also document number 12).

* 15. Results of Dr Romann's Smoke Analysis on BARCLAY, 26th July, 1983.

Strangely, dated three days later than the expertise. Normally there is an exact figure for "tar" and nicotine, not "approximately".

Furthermore, Dr Romann had found 0.1 mg nicotine but had advised three days earlier to declare 0.2 mg "according to standard methods". Which standards methods? (See also document number 12).

* 16. Opinion of Professor John Wahren on Gori / Darby Study, 22nd September, 1982.

Professor Wahren came to a similar conclusion as did the three independent experts appointed by the FTC: study not very conclusive, if anything the data refute the B&W hypothesis.

- * 17. Dr Romann's Admission that he had neither Conducted Pharmacological nor other Studies with Humans when Changing his Opinion on BARCLAY, 6th October, 1982.
- * 18. Dr Aubort's Measurement on BARCLAY Tar Yields when Dilution was Reduced. Laboratory of the Canton Chemist of Vaud, 18th November, 1982.
- * 19. Dr Romann's Fundamental Statement as to the Applicability of Testing Methods and their Underlying Principles, 12th November, 1982.
- Page 1: The declaration of smoke data should be for consumer orientation.
- Page 2: What is the important principle <u>Yield</u> (Angebot) or Absorption (Aufnahme).
- Page 3: If one decides for the principle of "Aufnahme", so are nicotine data relatively pointless, and one would have to look for methods to measure "tar" absorption.
- Page 3: If one decides for the principle of "Angebot" so is the Gori type study useless for ranking of cigarettes in general and of BARCLAY in particular. In such a case the PPA would be of certain value.
- * 20. Statement of Dr M Treboux, Canton Chemist of Neuchâtel, 30th November 1982.
- Page 2: BARCLAY indications could mislead the consumer.
- * 21. Statement of Dr J Vogel, Canton Chemist of Geneva, 6th December, 1982.

The canton chemists of the Suisse Romande have unanimously determined that the indications of "tar" and nicotine on the BARCLAY pack are misleading.

* 22. Expertise by Professor E Jeannet, University of Neuchâtel, 7th December 1982.

The performance and functioning of the PPA have been checked and the the instrument had been found to give reliable results.

In analogy to the study performed in the USA by US Testing, the University of Neuchâtel had found for BARCLAY a significant drop in dilution (to about half) when human data were compared to machine measurements. This was not the case for any of the other tested cigarette brand.

* 23. In-House Study by FTR / PME Neuchâtel, 1983.

The study shows clearly that BARCLAY yields different amounts of "tar" and nicotine when held in human lips than when held in a conventional smoking machine holder.

* 24. - THIS REPORT IS CONFIDENTIAL UNTIL SUCH DATE AS A BELGIAN COURT OF JUSTICE UNSEALS IT - Part One of the Report by Dr M Herman, Independent Expert Appointed by Judge Duplat, Brussels, dated 24th May 1983.

Dr Herman refers in this part of his report to the history of his mission and then proceeds to demolish the arguments advanced by the BAT ACTRON PROJECT CONSULTANTS during their all-day presentation on 25th March, 1983.

Page 7 to 9: Deals with smoke turbulence (vortex theory) and disproves the BAT claim of taste enhancement by the ACTRON filter.

Page 9 to 12: Lateral channel crushing and axial channel blocking explained by Dr Herman. Disprove of the BAT argumententation.

Page 13 to 16: Pharmacodynamics must be related to the dose provided. This is essentially what Dr Herman says. If Gori is sure of his data, he needs not be afraid of a "mouth study" because one should confirm the other.

Whilst the results of GORI / Darby cannot be disproved without other experimental evidence, they seem strange from a quantitative point of view, and Dr Gori's almost panic efforts to persuade Dr Herman not to conduct a "mouth study" raised the suspicion and resentment of the latter.

* 25. - THIS REPORT SHOULD NOT BE USED IN PUBLIC WITHOUT CLEARANCE BY MR B B BROOKS - "Mouth Study" by Dr Bosman, TNO, 3rd June, 1983.

This study is very similar to the one described in document number 21, the FTR PME "mouth study". The only difference in methodology is that whilst in Neuchâtel a standard puff of 35 ml was withdrawn by a smoking machine from the smoker's mouth and the number of puffs under standard conditions was used for the calculation of the results, in Delft a complementary approach of using the puff volume and number as taken by the smoker was taken.

Page 9: The graph in figure 1 puts the whole thing into a nutshell.

Comment: Tar and nicotine measurements are an evaluation of product performance. As each set of performance conditions results in different values, a set of conditions was declared to be the "standard" (1 puff per minute of 35 ml volume, bell shaped puff profile, 2 sec duration, and smoking to a defined butt length).

Such an approach is, of course, only justified if under the various posible sets of performance conditions the relative positioning of products (ranking) does not change. This has been admirably been confirmed by the TNO study - except for BARCLAY.

THE END